



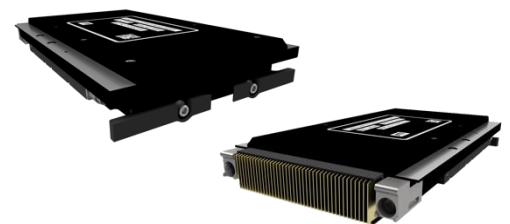
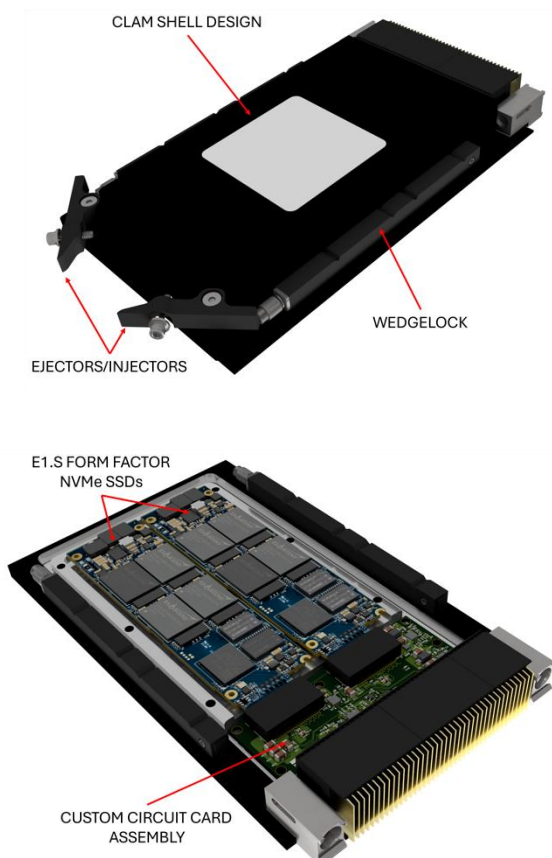
Space Mass Storage Device (SMSD)

ITI-SMSD-001

ITI's Space Mass Storage Device (SMSD) is a radiation mitigated 3U OpenVPX Cartridge that boasts storage capacities up to 16TB. The SMSD is ideal for large format edge processing, enabled by unprecedented read/write speeds via modern Gen4 PCIe interfaces. The SMSD's radiation resistance supports extended duration cold-storage between downlink opportunities. Compare to Innoflight's SSD-2000 Storage Device

Key Features

- Up to 16 TB Storage Capacity
- Read Speed— 3500MB/s
- Write Speed—3000MB/s
- Via PCIe x4 Gen4 Interface
- 20 Kilorad Total Ionizing Dose (TID)
- Space VPX (VITA78) Compatible Profile
- Advanced Error Detection & Correction
- Self Reboot Capability & Dual Firmware Image Storage
- Optional AES-256 Encryption (CSfC Solution)
- Average Consumption < 10W, 250 grams



ITI Engineering LLC

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The SMSD is utilized to securely read and write large amounts of data at high speeds in the harshest conditions. It serves as a critical component in creating effective and secure data storage for the worlds most advanced LEO, high-altitude and weapon applications that are exposed to radiation.

Mechanical	
Enclosure	3U VPX Form Factor
Weight (estimate)	< 1.5 pounds
Shock, Vibration, Acceleration and Temperature	
Operational Shock	Operational Shock - Tested per GSFC-STD-7000B Section 2.4.4.1
Vibration	Operational - Tested Per GSFC-STD-7000B (General Vibration) Non-Operational Shock - Tested Per GSFC-STD-7000B
Acceleration	Operational - Tested per GSFC-STD-7000B (Operational Test) Transportation Acceleration GSFC-STD-7000B
Temperature	Operating: -40C to 85C Non-Operating:-40C to 105C
Interfaces	
Hardware Interfaces	- VPX External Connector - SMBus Interface
Software Interfaces	- PCIe Gen 4
Reliability, Endurance, Performance & Power	
Reliability	- Advanced LDPC error correction - Global static and dynamic wear leveling - Hardware Power Loss Protection (PLP) (For U.2 & E1.S form factor) - UBER: <1 sector per 1017 bits read - MTBF: 2.0 million hours
Endurance & Data Retention	- 0.6 DWPD @3 Years (Sequential workload: 2 DWPD @3 Years) - TBW: 240GB: 150TB 480GB: 300TB 960GB: 600TB 1920GB:1200TB 3840GB: 2400TB 7680GB: 4800TB - JESD218A-compliant
Performance	- Sequential read: 3,500 MB/s - Sequential write: 3,000 MB/s - Random 4K read: 500,000 IOPS - Random 4K write: 55,000 IOPS
Power Mgmt	- Auto idle - PCIe link power management - Temperature monitoring and throttling
Power	<10W

Ordering Information

ITI-SMSD
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ITI-HSCID*
High-Speed Cartridge Interface Device (HS-CID) **Optional**

Cage Code
3EEM8

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